Work Order ID 93 November-19-12 10:06:35 A			*934	20*	, .		Page 1
Item ID: D3885-1 Revision ID: Item Name: Standard We	b (13)	A	ccept	*N900	ე401ე	Setup St.	14.7
Start Date: 11/12/12 Required Date: 12/07/12 Reference:	Start Qty 10.00 Req'd Qty: 10.00	*10* *10*	, · · ·	Cust Item II Customer:	D:		** *NS2*
Approvals: Process Pl		e: 17-11-Ze			te:	•	art *NR1*
QC: Sequence ID/ Work Center ID	Operation Description	e:	SPC (Y/N): Set Up/ Run Hours	Tool ID	te:Tool # Plan	Accept Reject	*NR2*
	vision Nbr		Kun Hours		Cou	e Qiy Qiy	Trumber States
# ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑	Memo Purchasing Issue P/O: Supplier: George A. Machine as per Dwg Conformity sheet rec	D3885	0.00 0.00 wejay.	3,		CL . 1=	2/11/20 (16
*10 *110 * Packaging Packaging	Receive & Inspect for Damage &	Mat'l Certs	0.00- 7			(0)	3/01/14 (
ackaging			De	May make the same of the same			

NCR: Yes NO WORK ORDER NON-CONFORMANCE / UPDATE												
NCR: ~	yes_/_/No_		~~		,, work or	ADEK MOM-C	ONFORI	VIAINCE /	OPDATE	QA Close	d: Date	
Mark Ord	0.00		· '		DISP	POSITION	1	-2-17	AGAINS	T DEPARTME		
Work Ord Part N	No.	Land of the second	^~~		Work Or	Rework Scrap Use-as-is der Update		Skid-tube Machining noforming Large Fab	Crosstub Small Fa Finishin Composit	p P Rec/S	Water Jet rod. Eng. Coor. tore/Packaging Supplier	Engineering Quality Other
Roốt Cause	Date	Step	Qtÿ	*	ption of work o or Non-conforn		Initial Chief Eng		Action Description	Sign & Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved							·					
	t was a second of the second o	<i>.</i>				FAFA	ULT CATE	GORY				
Landir	Cracks Crushed/ Cuffs Heat Trea Inspection Ripples in	nt n Strip in T i Bend Vaves in Ext	ube	,	Gene Bend BOM/Route Broken/Dama Burrs Contamination Countersink Cut Too Short Drill Holes Drawing	nged	Inspect Instruct Mainte Mislabe Misread Offset Out of 0	eled d		Ovalized Over/Und Part Incom Part Lost, Part Mov Positione Power Lo	Missing ed	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
J		ر ist in Tube	!		Folio		Outside	e Dimensions				<u> </u>

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0.00

0.00

Memo

i40:

QC^f

Quality Control

10 6 13-01-18

.: -											DQA:	Date:	:
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFORI	MANCE / UPD	ATE			, ,
				•							QA Closed:	Date:	· · · · · · · · · · · · · · · · · · ·
Work Ord	er.	-				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
WOIK OIG	-					Rework	٦		Skid-tube	Crosstube	1	Water Jet	Engineering
Part I	Vo.					Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
•	-					Use-as-is]	Thern	noforming	Finishing	Rec/Sto	re/Packaging	Other
NCR I	No					Work Order Update			Large Fab	Composite		Supplier	
Root	Т				Descri	ption of work order update	T	l Initial	Actio	on	Sign &		
Cause		Date	Step	Qty		or Non-conformance		nief Eng	Descri	ption	Date	Verification	QC Inspector
oc/Data													
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upplier		-		}							-		
raining										••			
Inapproved			ļ	·		·					<u> </u>	<u> </u>	
· · · · · · · · · · · · · · · · · · ·			-		· 		AUI	T CATE	GORY	· · · · · · · · · · · · · · · · · · ·			
Landi	_					General		1		_	.	_	7
		Bending				Bend	<u> </u>	Grain		<u> </u>	Ovalized	<u> </u>	Pressure/Forced
į	-	Centre No	ot Concer	ntric to	O/S	BOM/Route	\vdash	Hardwa		<u> </u>	Over/Under	 	Temperature/Cure
	-	Cracks			<u> </u>	Broken/Damaged	<u> </u>	4	on Incomplete	 	Part Incorre		Weld
	_	Crushed/0	Crimped.	÷	-	Burrs	\vdash	-1	ions Incomplete/Ur	nclear	Part Lost/Mi	issing	Wrong Stock Pulled
		Cuffs		•	· _	Contamination		Mainte		<u> </u>	Part Moved	• (
		Heat Trea		· 		Countersink	\vdash	Mislabe		<u> </u>	Positioned V		٦٠٠٠
	_	nspection		Tube	<u> </u>	Cut Too Short	\vdash	Misread	I		Power Löss/	Surge	Other
	-	Ripples in			. -	Drill Holes	<u> </u>	Offset					
į	7	Torque W	aves in E	xtrusio	n	Drawing	1	Out of (Calibration				

Out of Sequence
Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Finish

Folio

Work Orde November-19-12		•		*934				Page 3			
Item ID: Revision ID: Item Name:	D3885-1 Standard Web)		Accept	*N900	040	100)*	Setup Star	. 111	S1* S2*
Start Date: Required Date: Reference:	11/12/12 12/07/12	Start Qty: 10.00 Req'd Qty: 10.00	*10* *10*		Cust Item II Customer:	D:					
Approvals:		an:	Date:			ite:		I	Run Stai Stoj	" [X]	R1*
i	QC:	· · · · · · · · · · · · · · · · · · ·	Date:	SPC (Y/N):	Da	ıte:				*N	R2*
Sequence ID/ Work Center II	D	Operation Description Identify as per dwg & Sto	ck Location: 6/6	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 Packaging Packaging		Memo		0.00		I	X 1	3/04	18		
160;		QC21- Final Inspection -	Work Order Release	0.00				12	11/2	34	
160		Memo		0.00					19/0	·	

Quality Control

13/4/23 90 mr 13-4-23

		DQA:	Date:	
NCR: Yes / No	WORK ORDER NON-CONFORMANCE / UPDATE			

									QA Closed:	Date	
Work Orde	····	.			DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Work Orde	···				Rework] 	Skid-tube	Crosstube]	Water Jet	Engineering
Part N	lo.				Scrap	1 	Machining	Small Fab	- Pro	d. Eng. Coor.	Quality
· · · · · · · · · · · · · · · · · · ·					Use-as-is	l l Th	ermoforming	Finishing	Rec/Store/Packaging		Other
NCR N	lo.				Work Order Update	1 1	Large Fab	Composite	1	Supplier	† :
, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						, [• Ш	• -			
Root				Descri	ption of work order update	Initia	1 4	Action	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Chief E	ng Des	scription	Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling											
Operator						Ì					
Material											}
Setup											
Other		į									
Process		(
Supplier		l									
Training		1									
Unapproved											
		-			F/	AULT CA	TEGORY				
Landin	g Gear				General			_	-	_	-
	Bending				Bend	Grai	n		Ovalized		Pressure/Forced
	Centre No	ot Concer	ntric to (o/s	BOM/Route	Hard	lware		Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged	Insp	ection Incomplete		Part Incorre	ct	Weld
L	Crushed/0	Crimped.			Burrs	Instr	uctions Incomplete	e/Unclear	Part Lost/M	issing	Wrong Stock Pulled
_	Cuffs		* .	[-	Contamination	Mai	ntenance		Part Moved		
· [:	Heat Treat Countersink		Misl	abeled		Positioned V	Vrong	_			
	Inspection Strip in Tube Cut Too Short			Misr	ead	L	Power Loss/	Surge	Other		
L	Ripples in	Bend			Drill Holes	Offs	et				
	Torque Waves in Extrusion Drawing			Drawing	Out of Calibration						
	Turning Sequence Finish			Finish	Out of Sequence						
	Wave/Twist in Tube		Folio	Outs	side Dimensions						

Picklist Print

* November-19-12 10:06:34 AM

Work Order ID:

93420

Parent Item:

D3885-1

Parent Item Name:

Standard Web

Start Date: 11/12/12

Required Date: 12/07/12

Page 1

Start Qty: 10.00

Required Qty: 10.00

Comments:

IPP RevA: New issue DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3882-1-130 Extrusion "I" Beam		Manufactured	No			110	Each	39.0000	1	10	'La111	 22	,
				Location		Loc Qty	<u>Lo</u>	c Code					
				HALL		30							
				5182	:6	30				\mathcal{O}_{-}			
e ·		•		LG		. 9							

51826

D 3885-LF

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143/41/1420

-									DQA:	Date:	
NCR: Y	es / No				WORK ORDER NON-C	ONFOR	MANCE / UP	DATE			*
					· · ·				QA Closed:	Date:	
Work Orde	vr.				DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
WOIK OIGC					Rework Skid-tube Crosstube			Water Jet		Engineering	
Part N						Pro	d. Eng. Coor.	Quality			
					Use-as-is				Rec/Sto	re/Packaging	Other
NCR N	lo				Work Order Update	ate Large Fab Composite Supplier					<u> </u>
Root		T		Descri	ption of work order update	Initial	Ac	ction	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Chief Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data											ļ
Equip/Tooling		1							ŀ		
Operator				İ							
Material					•						
Setup				i							
Other											
Process											,
Supplier	→ '	· ·			•	•					
Training		}									
Unapproved		<u> </u>		:			<u> </u>			<u> </u>	<u> </u>
		<u></u>				AULT CATE	GORY				
Landin F				_	General	гт <u>.</u> .		-	1	_	7_ ,_ ,
-	Bending				Bend	Grain		<u> </u>	Ovalized		Pressure/Forced
-	-	ot Conce	ntric to	o/s	BOM/Route	Hardware			Over/Under	 	Temperature/Cure
}	Cracks	<i>(</i>		.	Broken/Damaged	Inspection Incomplete Part Incorrect				<u> </u>	Weld
}	_	Crimped.	-	<u> </u>	Burrs		ions Incomplete	'Unclear	Part Lost/M		Wrong Stock Pulled
-	Cuffs							Part Moved			
Heat Treat Countersink					I			Positioned Wrong			
	Inspection	n Strip in	Tube	1	Cut Too Short	Misread			Power Loss/	'Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

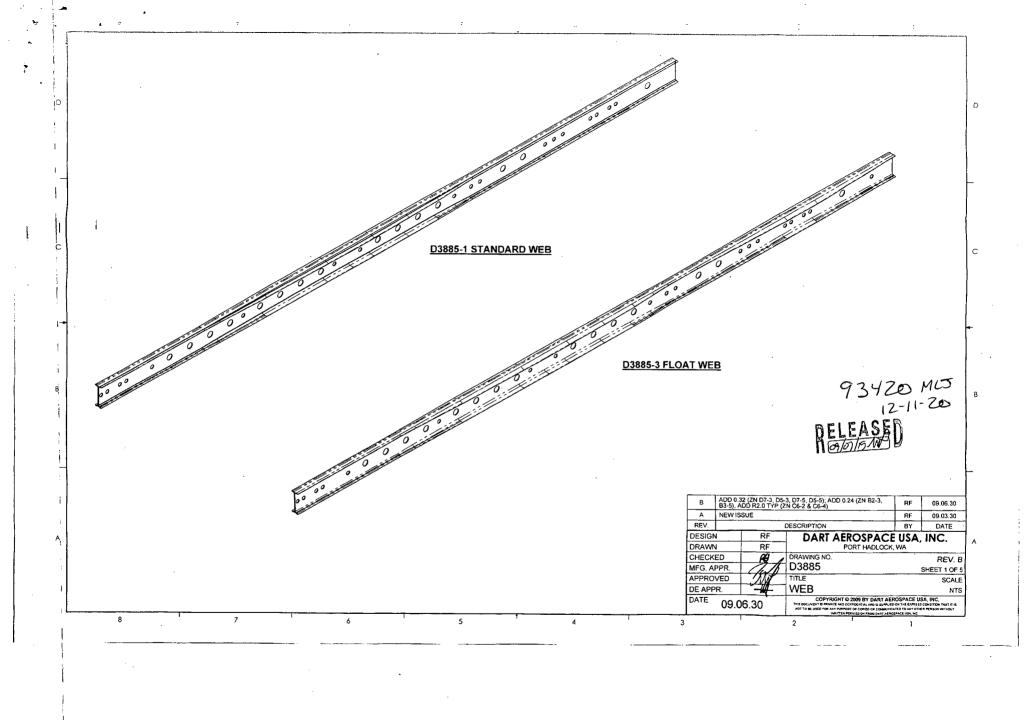
Torque Waves in Extrusion

Drill Holes

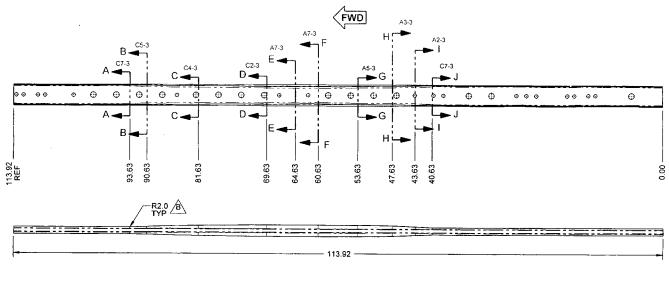
Drawing

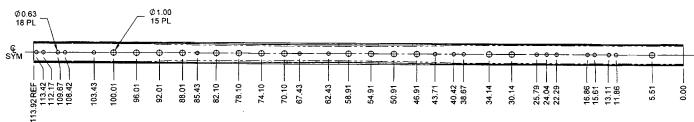
Finish

Folio



D





D3885-1 STANDARD WEB

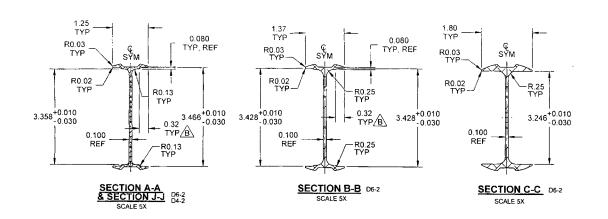
- D3885-1 NOTES:

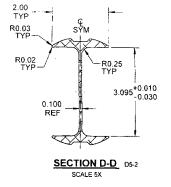
 1) MATERIAL: MAKE FROM D3882-1-130 EXTRUSION
 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3885-1" USING FINE POINT PERMANENT INK MARKER 7) WEIGHT: 8.51 lbs

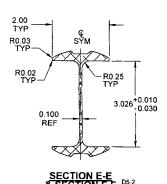
DART AEROSPACE USA, INC. DESIGN RF DRAWN RF PORT HADLOCK, WA CHECKED DRAWING NO. REV. B D3885 MFG. APPR. SHEET 2 OF 5 APPROVED TITLE SCALE **WEB** DE APPR. NTS COPYRIGHT © 2009 BY DART AEROSPACE USA, INC.
THIS DOCUMENT IS REPLACE AND CONTROLLING AND IS SUPPLIED OF THE DEPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OF COMPLEX OF CONTROLLING TO MAY OTHER PERSON WITHOUT WRITTER PRIMARYOR FROM DAIL / ADDISPACE USA. DATE 09.06.30

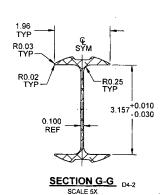
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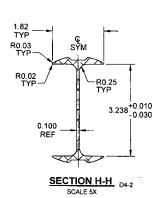
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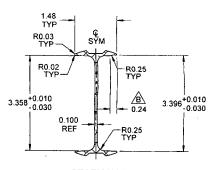












SECTION E-E & SECTION F-F	D5-2
SCALE 5X	

8

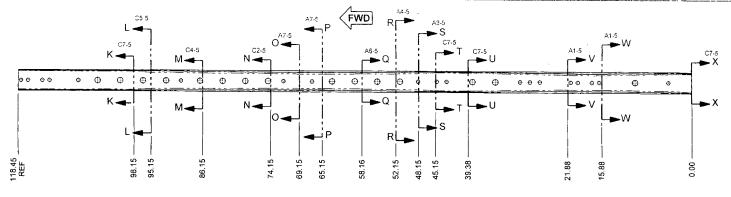
D3885-1 STANDARD WEB SECTION VIEWS

SCALE 5X D4-2

DESIGN	RF	DART AEROSP	ACEUSA INC.
DRAWN	RF	PORT HAD	
CHECKED	PH 1	DRAWING NO.	REV. B
MFG. APPR.	2200	D3885	SHEET 3 OF 5
APPROVED	JW.	TITLE	SCALE
DE APPR.	-4	WEB	NTS
DATE 09.06.30 COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THES DOCUMENT OF HER THE DECOMPRISE HAVE AND IS SETTING OF THE JURGES CONTINO THAT IT IS NOT TO BE USED FOR ANY PROPERTIES OF CONTINO THAT IT IS			

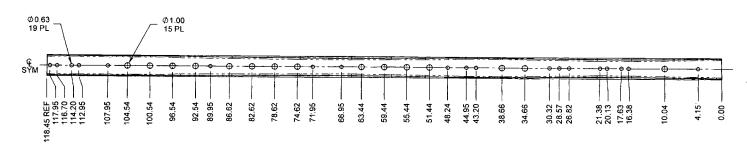
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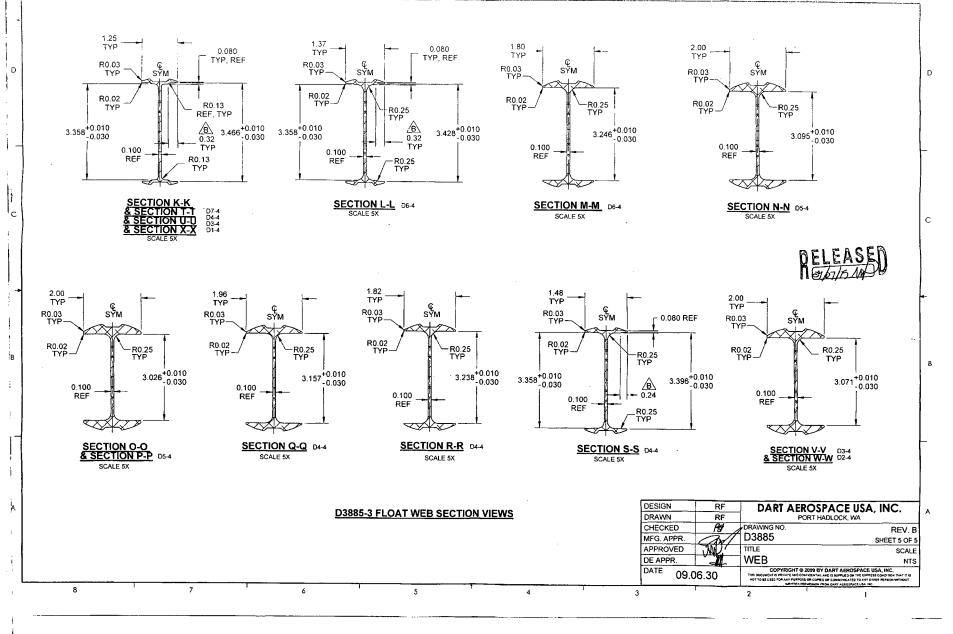


D3885-3 FLOAT WEB

D3885-3 NOTES:

1) MATERIAL: MAKE FROM D3882-1-130 EXTRUSION
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3885-3" USING FINE POINT PERMANENT INK MARKER
7) WEIGHT: 10.14 lbs

DESIGN DART AEROSPACE USA, INC. DRAWN RF PORT HADLOCK, WA CHECKED DRAWING NO. REV. B D3885 MFG. APPR SHEET 4 OF APPROVED TITLE SCALE DE APPR. WEB NTS COPYRIGHT © 2009 BY DART AEROSPACE USA, INC.
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WOT TO BE USED FOR ANY PURPOSE OR CONDUMENCATED TO ANY OTHER PERSON DATE 09.06.30



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600 O'CONNOR DRIVE, KINGSTON, ONTARIO K7P 1N3

PHONE: (613) 384-1662

FAX: (613) 384-2997

CERTIFICATE OF COMPLIANCE

CUSTOMER: Dart Aeros	space	DATE: March P.O.# WEJAY JOB#	PO18242 36044C
to the requirer	y that the following nents and specifica s will be listed as N	g material has been inspected/tested and ations as stated in your contract and as r	i conforms
PART NO.	QTY.	PROCESS (ES)	SPECIFICATION / REV
D3885-3 'Float Web'	5	Machined complete per drawing req'ts.	D3885 / rev. B
Note: 1) Material suppli 2) Inspection repo		ce.	

Records of Inspection/Test will be retained for 5 years minimum.

Yours truly,

Clifford Smith

Authorized Q.A. Signatory



600 O'CONNOR DRIVE KINGSTON, ONTARIO K7P 1N3

INSPECTION / TEST REPORT

JOB No. 36044C

PAGE: 1 of 3

CUSTOMER: Dart Aerospace CUST. P.O.# PO18242

PART No. D3885-3 DESCRIPTION: Float Web E.C.O. ---

DWG No. D3885 REV. B

MATERIAL: Extrusions supplied by DAS

QUANTITY REC'D: 5 ACCEPT: REJECT: N.C.R.#

WASF INSPECTOR

INSTRUCTI	ONS,	COM	MENTS:

	ļ							
1	ITEM	CHARACTERISTIC	DETAILS	TOLERANCE	DWG	RESULT	OTY.	COMMENTS
	REF.	(DIMS IN mm)			SHT/ZONE		INSP.	(ACC. REJ.
	No.							REW. NMR #)

1	Hole, Diameter .63"	19 places	+.008/001	0.4-	1	Acc. 5
2	Hole, Diameter 1.00"	15 places	+.010/001	0.K-	2 2	1)
3	4.15"		+/03	0.K.	2))
4	10.04"		+/03	O.K.	2	10
5	16.38"		+/03	O.K.	1	77
6	17.63"		+/03	0.K.	2 2	h
7	20.13"		+/03	0.K.	2	13
8	21.38"		+/03	0.K.	2	1)
9.	26.82"		+/03	0.K.	2	· ,
10	28.57"		+/03	O.K.	2	1)
11	30.32"		+/03	0.K.	2	n
12	34.66"		+/03	0.K-	2	9)
13	38.66"		+/03	0.K.	2	//
14	43.20"		+/03	Q.K.	1	i]
15	44.95"		+/03	O.K.	2	ij
16	48.24"		+/03	ak.	2	1)
17	51.44"		+/03	0.K.	1	1)
18	55.44"		+/03	O.K.	2	ĵ)
19	59.44"		+/03	ak.	2	1)
20	63.44"		+/03	0.K-	2	1)
21	66.95"		+/03	0.K.	2	61
22	71.95"		+/03	0.K.	2	7)
23	74.62"	,	+/03	0-K-	2	11
24	78.62"		+/03	OK.	2	1)
25	82.62"		+/03	۵۲۰	2	1)
26	86.62"		+/03	Q.K.	2.	37
27	89.95"		+/03	ů.K.	2	n
28	92.54"		+/03	ak-	2	ę)
29	96.54"		+/03	ak.	2	D
30	100.54"		+/03	OK.	2	()
31	104.54"		+/03	ûk.	2	1)
32	107.95"		+/03	OK.	2	11
33	112.95"		+/03	ak.	2	1)
34	114.20"		+/03	a.K.	2	*)
35	116.70"		+/03	ok-	2))

JOB No. 36044C INSPECTION / TEST REPORT PAGE: 2 of 3 CUSTOMER: Dart Aerospace CUST. P.O P.0 18242 PART No. D3885-3 DESCRIPTION: Float Web DWG No.D3885 REV. B E.C.O. --REF. CHARACTERISTIC DETAILS TOLERANCE DWG RESULT QTY. COMMENTS (ACC. REJ. REW. NMR #) SHT/ZONE No. 117.95" 36 +/- .03 0.K. Acc.5 1.25" TYP Section K-K,T-T,U-U,X-X 37 O.K. n R.03" TYP 38 O.K.)) 2 39 R.02" TYP 0.K. 2 b 3.358" +.010/-.0301) 40 5 O.K. **R.13" TYP** 0.K. 41 .32" TYP 42 sì 0.K-2 43 3.466" +.010/-.030 0.K. 1) R.13" TYP 44 O.K. 2 17 45 .080 TYP,REF 0.K. ,) 2 1.37" TYP Section L-L 2 46 0.K. 1) 47 R.03" TYP 2 0. K. 7) 48 R.02" TYP 0.K. 2 h 49 3.358" +.010/-.030 5 1) 0.K-R.25" TYP 50 1) O.K. 1). 51 .32" TYP D. K-2 n R.25" TYP 52 2 ak. 1) 3,428" 53 +.010/-.030 5 gì 0-K-54 1.80" TYP Section M-M 2 0. K-)) R.03" TYP 55 2 0. K > 1) R.02" TYP 56 2) 0-K-2 57 3.246" +.010/-.030 5 ħ 0.K-**R.25" TYP** 58 n O.K. 2 59 2.00" TYP Section N-N 7) 0.K. 2 60 R.03" TYP i) 0.K. 2 R.02" TYP 2 61 0.K. 11 3.095" 2 62 +.010/-.030 0. K. n 63 R.25" TYP 2 O.K. þ 2.00" TYP Section O-O,P-P 64 0. K. 7) 65 R.03" TYP 0.K-2 11 R.02" TYP 2 66 ak. ħ 3.026" +.010/-.030 67 5 ak. 1) R.25" TYP 68 o.K. 2 ٤١ 69 1.96" Section Q-Q ak-2 11 **R.03" TYP** 70 O.K. 1) R.02" TYP 2 71 O.K. " 3.157 72 +.010/-.030 5 0.K. 13 **R.25" TYP** 73 0.K. 2 1) 1.82" Section R-R 74 O.K. 2 11 75 R.03" TYP 2

0.K.

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T	NSPECTION / 7	PECT DEDADT			JOB No.			
I	ISPECTION / I	3	360440					
					PAGE: 3 of	3		
CUST	OMER: Dart Aerospace	,		· · · · · · · · · · · · · · · · · · ·				
CUST								
	No.D3885-3	· · · · · · · · · · · · · · · · · · ·		N: Float V				
	No.D3885	I Domestic	REV. B		E.C.O			
REF. No.	CHARACTERISTIC	DETAILS	TOLERANCE	DWG SHT/ZONE	RESULT	QTY. COMMENTS INSP. (ACC. REJ. REW. NMR		
76	R.02" TYP				O.K.	2 Acc. 5		
77	3.238"	Section R-R Cont'd	+.010/030		O.K.	5 "		
78	R.25" TYP		·		ak-	2 11		
79	1.48"	Section S-S	TC-17-11-11		ak,	2 "		
80	R.03" TYP				0-K.	2 11		
81	R.02" TYP				O.K.	2 1		
82	3.358		+.010/030		O.K.	5 "		
83	R.25" TYP				0-K-	2 "		
84	3.396"		+.010/030		0-K-	5 "		
85	R.25" TYP				0.K.	2 "		
86	2.00"	Section V-V, W-W			0.K.	2 "		
87	R.03" TYP				0.K.	2 "		
88	R.02" TYP		1		QK-	2 1		
89	3.071"		+.010/030		0×K.	5 "	-	
90	R.25" TYP				D.K.	2 "	$\neg \uparrow$	
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